

CLAIMS

What is claimed is:

1. A system that ranks search results, comprising:
a first component that determines a relevance of respective search results *via* one or more feature-based relevance functions; and
a second component that orders the search results based on the respective relevances.
2. The system of claim 1, the features utilized with the one or more feature-based relevance functions include at least one of: one or more text-based relevance scores; a comparison between text-based relevance scores with different scopings; an occurrence of a word in a thread position relative to a posting; an occurrence of a word-class in a thread position relative to a posting; an occurrence of a phrase in a thread position relative to a posting; an inferred label on an edge between a posting and the posting's parent; an inferred label on an edge between a posting and the posting's child; a number of messages in a thread; a thread depth; a thread maximal branching factor; a thread linguistic property; a posting depth; a number of descendents of a posting; a number of children in a posting; a number of postings per time duration; a number of newsgroups posted; a number of postings that have no responses; a probability that a posting is relevant given the posting is from a particular newsgroup; and a probability a posting from a particular newsgroup is relevant given a query.
3. The system of claim 1, the relevance functions are generated based on one or more of scoped lexical information, a digital artifact attribute, and a source repository attribute.
4. The system of claim 1, the search results are associated with searches over one or more collections of digital artifacts.

5. The system of claim 1, the collections of digital artifacts comprise data associated with one or more of a Usenet, a mailing list, a discussion thread, a wiky, a blog, an archived community discussion, a chat room, a web page, a database, and a list.
6. The system of claim 1, further comprising a function generator that creates the relevance functions based on at least one of a training set, a feature set, a probability, an inference, a classifier, a heuristic, and user specified criteria.
7. The system of claim 1, the relevance functions are refined based on a user's response to the ranked search results.
8. The system of claim 1, the relevance functions are probabilities that respective digital artifacts are relevant to a search.
9. The system of claim 8, at least on relevance function is defined as $\text{Relevance}(V(\text{posting}, \text{query}))$, which is a relevance weight of a posting given a query, wherein function $V(\text{posting}, \text{query})$ returns a set of features and feature values for a particular posting and query.
10. The system of claim 1, the relevance functions associate relevance weights with respective search results and the ranking of the search results is based on the relevance weights.
11. The system of claim 1, the relevance functions are generated *via* machine learning.
12. The system of claim 11, the machine learning includes one or more of a linear regression, a non-linear regression, and a support vector machine.
13. The system of claim 1, the features are obtained by extracting information from digital artifacts.

14. The system of claim 1, further comprising a thresholding component that defines acceptable relevance levels in order to mitigate providing non-relevant search results to a user.
15. The system of claim 14, the acceptable relevance level is configured for at least one of an application and a user.
16. The system of claim 14, the acceptable relevance level dynamically adjusts based on a user's response to search results.
17. A method that ranks search results, comprising:
 - submitting a search request;
 - searching one or more repositories of cyberspace conversations;
 - determining a relevance of respective search results; and
 - ranking the search results based on the relevances.
18. The method of claim 17, further comprising employing at least one relevance function to facilitate determining search result relevances, the at least one relevance function is based on one or more of scoped lexical information, a digital artifact attribute, and a source repository attribute.
19. The method of claim 18, the relevance function is based on one or more features, including at least one of: one or more text-based relevance scores; a comparison between text-based relevance scores with different scopings; an occurrence of a word in a thread position relative to a posting; an occurrence of a word-class in a thread position relative to a posting; an occurrence of a phrase in a thread position relative to a posting; an inferred label on an edge between a posting and the posting's parent; an inferred label on an edge between a posting and the posting's child; a number of messages in a thread; a thread depth; a thread maximal branching factor; a thread linguistic property; a posting depth; a number of descendants of a posting; a number of children in a posting; a number


of postings per time duration; a number of newsgroups posted; a number of postings that have no responses; a probability that a posting is relevant given the posting is from a particular newsgroup; and a probability a posting from a particular newsgroup is relevant given a query.

20. The method of claim 18, further comprising refining the at least one relevance function based on a user's response to the ranked results.

21. The method of claim 18, further comprising employing machine learning to facilitate generating the at least one relevance function.

22. The method of claim 17, the one or more repositories of cyberspace conversations comprises data associated with one or more of a Usenet, a mailing list, a discussion thread, a wiky, a blog, an archived community discussion, a chat room, a web page, a database, and a list.

23. The method of claim 17, further comprising scoping a discussion thread to create a feature.

24. A method that ranks search results, comprising: 
receiving a search request;
retrieving one or more relevance functions associated with the search request;
applying the one or more relevance functions to search results to determine a
relevance of respective search results; and
ranking the search results based on the relevances.

25. The method of claim 24, further comprising thresholding the search results to distinguish between search results that are likely to be more relevant to the user and search results that are likely to be less relevant to the user.

26. The method of claim 25, the threshold is configured based on at least one of a user and an application.
27. The method of claim 25, further comprising employing the less relevant search results to dynamically adjust at least one of a relevance function and the threshold.
28. The method of claim 24, further comprising determining non-relevant results prior to providing the ranked search results to a user and discarding the non relevant search results prior to providing the ranked search results to the user.
29. The method of claim 24, the relevance functions are based on one or more of scoped lexical information, a digital artifact attribute, and a source repository attribute.
30. The method of claim 24, the relevance functions are based on one of a training set, a feature, a probability, an inference, a classifier, a heuristic, and specified criteria.
31. A data packet transmitted between two or more computer components that facilitates ranking search results, comprising:
generating one or more relevance functions based on linkage information, an author attribute and a repository attribute; applying at least one of the relevance functions to determine a relevance for individual search results; ranking the search results based on the relevances; and providing the ranked results to a querier.
32. A computer readable medium storing computer executable components to facilitate ranking search results based on relevance, comprising:
a component that determines a relevance of respective search results; and
a component that ranks the search results based on the respective relevances.
33. A ranking system, comprising:
means for determining a relevance for respective search results; and
means for ranking the search results based on the respective relevances.